

SBARA's Groundplane

SEPTEMBER 2007 VOLUME 8 ISSUE 9

The monthly Newsletter of the South Bay Amateur Radio Association Fremont, Ca.

President's Shack By Steve KA6S —

September is upon us and we figured that after the hard work of raising money at the Zucchini festival, maybe it was time to spend a little of that hard earned cash and have some fun. To that end, it was suggested and adopted by the board to sponsor a **Pot Luck** for the **September 14** meeting.

I would like invite everyone to come and enjoy some good food and to enjoy each others company at the Niles Veterans hall (our normal meeting place) beginning at 6pm. To get some variety we're going to ask each person to bring something. **Folks whose CALLSIGN SUFFIX begins with A-G should bring a salad, H-R a side dish, and S-Z brings a dessert.** Since I'm ka6S my family will be bringing a dessert of some sort.

There will be NO speaker. We're just there to have fun - and talk. Hams SHOULD be good at that after all!

Our Raffle chair-people have come up with a VERY exciting raffle prize. Consequently the buy in will be \$10 per ticket. What could be worth a \$10 ticket, for gosh sakes that what we ask for the radios we raffle off at Field Day. You know, that time we set up radios and op-

erate off of generators.

Well - how about a Champion 3500W gas-powered generator! Exactly the same model that powered ALL of our radios this Field day! I know I'll be buying a ticket- and keeping my fingers crossed.

Hope to see you all there!

September Raffle

Grand prize is a Champion Power Equipment 3500 running watts / 4450 watts surge Gas Generator!!

This generator is similar to the one that the club used to power our whole Field Day 2007 operation...quietly and efficiently! Its new in the box and looking for a good home.

Some key features:

6.5 hp OHV engine, EPA and CARB certified

4 gallon fuel tank, approx. 10-12 running time at 50% load.

Heavy steel frame with pneumatic wheels.

\$10 buy in (get you 10 tickets) and \$1 per ticket after that.

See you at the Potluck,
Adam, ND6N



September Meeting Raffle

The raffle for September will be Champion Gas-Powered Generator

Champion 3500



Thanks to all of our members that assisted at this year's Hayward Zucchini Festival!!!

Good luck to all participants for the Yaesu Transceiver drawing!!!

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The monthly Newsletter of the South Bay Amateur Radio Association

Fremont, Ca.

Treasurers Report — Bernhard Hailer, AE6YN

Dear SBARA Member,

SBARA's biggest fundraiser took place last month: the Hayward Zucchini Festival. I'm happy to report that SBARA could fill in all shifts, so the festival organization should be very happy with us.

Last year's Zucchini festival money will be handed over to us during the September meeting. We will use parts of these funds to build our next years field day antennas: tests with the phased arrays this year on 40m and 20m gave such great

results that we decided to build antennas for 15, 20 and 40m and to retire our Moxons: the phased arrays are much easier to set up and to take down. A prototype should be complete soon. I'm really looking forward to the next fieldday!

73!

Bernhard, AE6YN

SBARA Treasurer

ae6yn (at) arrl (dot) net

License Classes — Ti Michelle Connelly, NU6T

Fall 2007 ham classes taught by EBARC, ORCA, and ARCA members will be held at the Alameda Fire Department Training Building at 431 Stardust Place, Alameda. The building is located on the old Navy base at the intersection of Midway and Rainbow, which is only a mile or so from the Webster St. tube.

Technician License Class:

Five consecutive Tuesday evenings (9/25, 10/2, 10/9, 10/16, and 10/23) from 7:00 p.m. -- 9:30 p.m. local time.

The (regularly-schedule d) VE session will be on Sunday morning, Oct. 28th; 9:00 a.m. at Kaiser building, 1950 Franklin, Oakland.

General License Class:

Six consecutive Tuesday evenings (10/30, 11/6, 11/13, 11/20, 11/27, 12/4) from 7:00 p.m. -- 9:30 p.m. local time. The special VE session for this class will be held Tuesday, Dec. 11th at 7:00 p.m. at 431 Stardust Place, Alameda.

SBARA CW Practice Group — Bernhard Hailer, AE6YN

Dear CW Enthusiast (or prospective enthusiast),

we are still on air practicing CW whenever we can. Isaac, KI6DIL, Amanda, AF6YL, AI, WT6K and I would be happy to meet you, too! The CW practice group is active every

Tuesday & Thursday on 75 meters —
3.880 Mhz. & on 10 Meters at 28.400
MHz., @ 8:30 p.m.

We will slow down for you, don't be scared away if somebody is really fast there! Just send a „bk“ and your callsign, we will adjust to your skills. We will also be able to listen to and to send SSB, usually we do some short chat in SSB at the end of our practice rounds.

Looking forward to meet you on 15m!
Bernhard, AE6YN

Fremont Fire Dept. Community Emergency Response Team (CERT) to Host Red Cross Blood Drive at October 6th Event

Did you know that there is a critical blood shortage in the Bay Area? Did you also know that the Bay Area Red Cross supplies 31 local hospitals with blood on a daily basis? Your whole blood donation will help three people in need. Nationwide, 60% of the population is able to donate blood but only 5% do. In the Bay Area, only 2 to 3 % of our local population donates blood.

Please consider donating and answering the Red Cross's call to address the shortage in our local blood supply. On **Saturday, October 6, 2007**, during the Fremont Fire Dept. Community Emergency Response Team Annual Training Event and Family Picnic, the Red Cross Bloodmobile will be parked from 9 AM to 2 PM in the Teen Center parking lot at 39770 Paseo Padre Parkway (near the Lake Elizabeth Boathouse and the intersection of Sailway Drive and Paseo Padre Parkway).

SBARA members, their families, and anyone from the general public are encouraged to donate.

Blood donors must be at least age 17, a minimum of 113 pounds and in good health. The Red Cross does have some restrictions based on medications and international travel.

For donor eligibility questions, call the Red Cross Nurse at 510-594-5143. Walk-in donors are welcome. Specific blood donation appointment times can be scheduled on-line at www.BeADonor.com, using Sponsor Code = FREMONTFIRE, or by phone calling 1-800-GIVELIFE (1-800-448-3543).

Thanks!



Happenings — By Adam Feriante, ND6N

<u>Event Date</u>	<u>Event Name / Description</u>	<u>Website</u>
September 1	Transmitter Hunt - Fremont	www.thunt.org
September 2	Livermore Swap Meet	www.livermoreark.org/swap/swap.html
September 8	Foothill Flea Market	www.electronicfleamarket.com
September 10	Sunnyvale VEC Ham Radio Exam Session - Fremont	
September 14	SBARA Meeting BBQ Social	www.sbara.org
September 14-16	Harvest Hamvention - Fresno	www.sjvars.com
September 14-16	Seventh USA Championships of A R Direction Finding - Lake Tahoe	http://members.aol.com/homingin/farsnews.html#tahoe
September 15	Transmitter Hunt - Foxes Choice	www.baears.com
October 6	Transmitter Hunt - Fremont	www.thunt.org
October 7	Livermore Swap Meet	www.livermoreark.org/swap/swap.html
October 12	SBARA Meeting	www.sbara.org
October 14	Ham Radio Study & Exam Session—Washington West	
October 19-20	Pacificon 2007—San Ramon	www.pacificon.org
November 4	Transmitter Hunt - Fremont	www.thunt.org
November 4	Daylight Savings Time Ends	
November 10	Livermore Swap Meet	www.livermoreark.org/swap/swap.html
November 17	Transmitter Hunt - 5PM Foxes Choice	www.thunt.org

The Automatic Packet Reporting System (APRS)

A USB GPS receiver, a transceiver with built-in TNC and a few hacks

APRS, the **Automatic Packet Reporting System**, was invented by Bob Bruninga, WB4APR [1]; this system is a quite ingenious way of letting other stations know where you are and possibly what the environmental parameters around you are (e.g. weather data). Basically all you need is a GPS receiver and a packet radio station – and the knowledge of the nationwide frequencies used for it: in the US it is 144.390 Mhz.

I came in contact with APRS during a Stratofox [2] balloon tracking mission. A weather type balloon was used to lift a payload with several precision measurement instruments into great height. At an altitude of some 30 km (20 mi) such a balloon bursts, and the payload drops down, supported by a parachute of course. Since the payload consists of expensive equipment, there is a high motivation to get everything back after the mission, and so the payload is always equipped with a GPS tracking system, an APRS beacon. It reports every few seconds its position. Search vehicles and planes are (ideally) also equipped with APRS, so that everybody in the search team knows where the payload and where the other search vehicles are. A nice Linux software named Xastir shows each location on a map [3] (there are DOS/Windows programs for APRS, too, of course).

Now, after I had seen that, I wanted such a station. I had had apparently been pretty farsighted when I had bought a Kenwood TM-D700A about a year ago. This nice mobile duoband radio contains a terminal node controller (TNC) and therefore is also a packet radio station; it also contains a socket to connect a standard GPS receiver and the software to make it a standalone APRS station. So, it should be an easy thing to attach a GPS and to hit the road with it, I thought, and started some web research. One particular page [4] caught my interest, it describes a hack of a pretty cheap USB GPS receiver. Dean Hall, the author of this page, wanted to build an automatic robot and needed a serial GPS receiver. He found one, the Evermore GM-R900, which contains a very sensitive SIRF-III GPS device with serial output and an additional Serial/USB converter – together \$43 plus

tax and shipping: a great deal! I bought one and built a few things to make it work.

1. *The D700 is a beautiful radio. It however lacks of one important thing: a power outlet to power the GPS receiver. So I hacked my radio and built in a simple low voltage socket. A first attempt to tap a 7805 voltage regulator I found inside the radio did not work, the power surge by the GPS (about 80mA) was just too much, and the radio's sensitivity broke down as soon as the GPS was connected to it. So I tapped the main power lines (13.8V) and added an external 7805 regulator including the usual capacitors.*
2. *I wanted to have a versatile GPS, one I could use standalone on the D700, standalone on my laptop, or in any combination with these two. So I took the GPS apart as described in [4] and prepared some cables. It quickly turned out that the serial output of the GPS was not enough to drive the serial input port on the D700 radio: at 5V, the voltage swing is about -3.3 to +3.3 V. I looked up the specifications for the serial port: the swing should be from -15...-3 to +3...+15 volts, everything between -3 and +3 volts is undefined. The GPS was just too close to this limit. I had to boost the serial output. There is a well known chip family available from Maxim, the most renown one is the MAX232. I selected the MAX233a, which does not require the external capacitors the MAX232 needs. Bought one, added the required circuitry, and bingo: the signal was good enough for the D700 to comprehend.*

Below is a schematic of what I'm using and a few photos of the practical setup. It works great! You might be able to see me using a web browser when you are connected to the Internet [5]. When will I see your station on my APRS monitor?

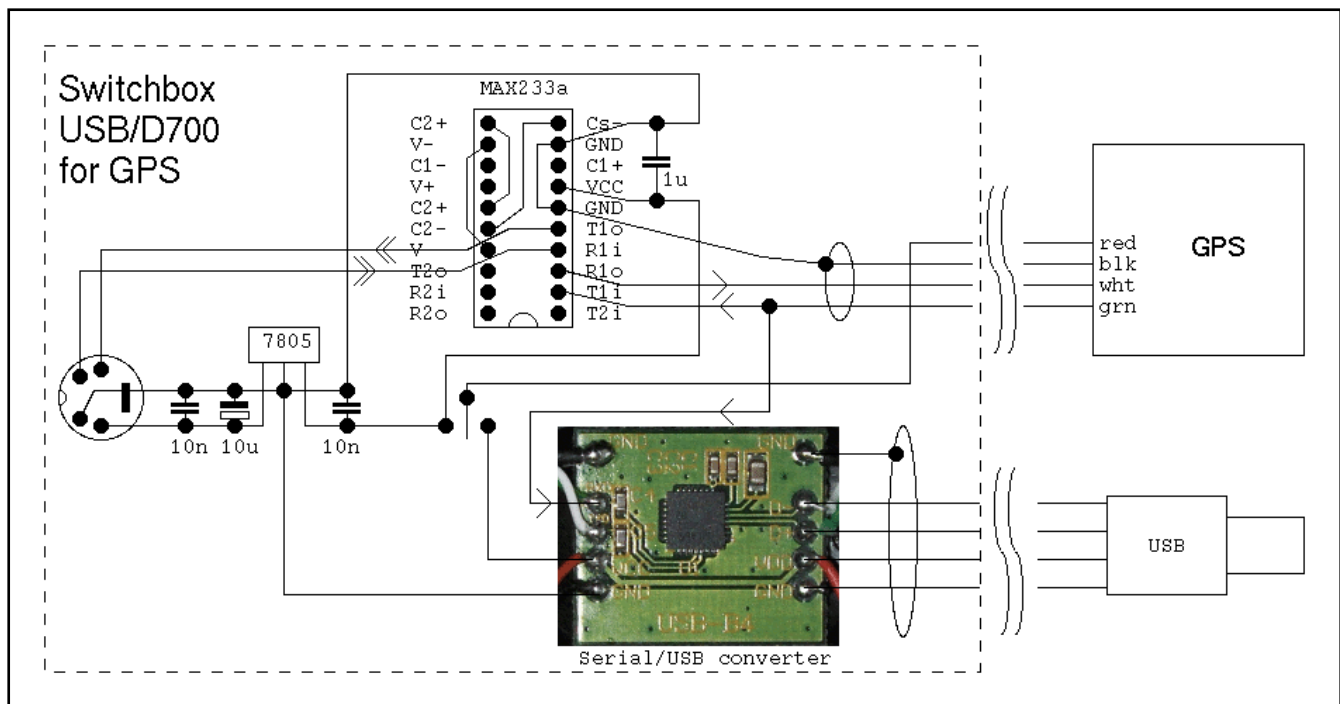
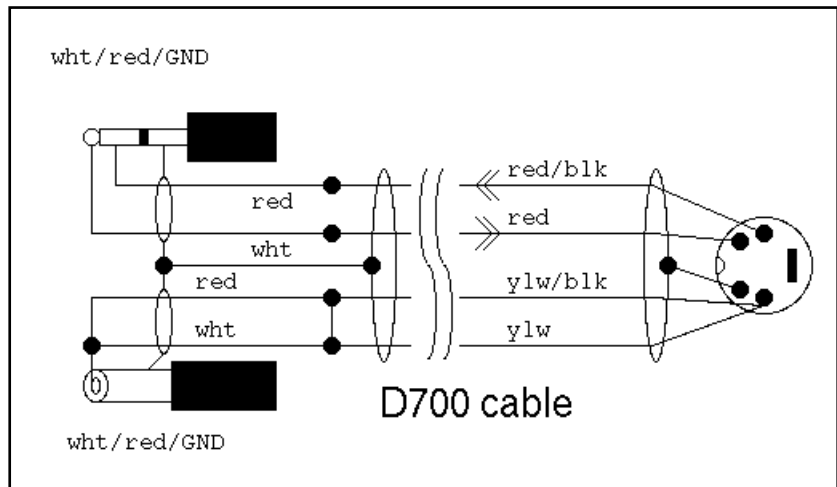
Bernhard, AE6YN

ae6yn (at) arrl (dot) net

The Automatic Packet Reporting System (APRS) Development Images

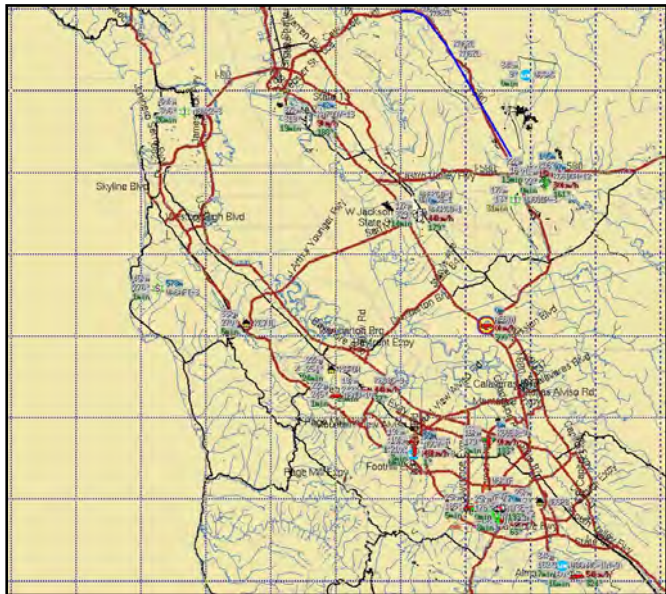
APRS article Key:

- [1] <http://www.aprs.org>
- [2] <http://www.stratofox.org/>
- [3] <http://www.xastir.org/>
- [4] <http://www.deanandara.com/Argonaut/Sensors/Gps/HackingEverMore.html>
- [5] <http://www.findu.com/cgi-bin/find.cgi?call=ae6yn>



New 13.8V socket on my
TM-D700A

The Automatic Packet Reporting System (APRS) Development Images



Cutout from a Xastir screenshot covering the Bay Area, after some half hour of recording.

You can see my station (AE6YN) and plenty of others – just not in my neighborhood...

Interface box with connected cable for TM-D700A. On the right side is the GPS „mouse“. Everything was built into a \$2 housing from Radio Shack. The screw in the center of the metal sheet cover holds the 7805.



Provisional APRS setup in my shack. The laptop is running Xastir under Linux; the TM-D700A, the interface box and the GPS are on the left hand side. Disregard my SDR-1000 in the background, it's not part of this game :-)



Together, we can save a life

RED CROSS BLOOD DRIVE

Date: Saturday, October 6, 2007

Time: 9:00 AM to 2:00 PM

Location: American Red Cross Bloodmobile
Fremont Teen Center Parking Lot
39770 Paseo Padre Parkway
Fremont Central Park
Near the Boathouse at Lake Elizabeth
Near the Paseo Padre Pkwy and Sailway Drive Intersection

Register: Walk-in Donors are welcome.

For a specific time, go online to www.BeADonor.com
and use Sponsor Code **FREMONTFIRE**
Or call [1-800-GIVELIFE](tel:1-800-GIVELIFE) (1-800-448-3543)

“Our local blood supply has been extremely low all summer.” The Bay Area Red Cross supplies 31 local hospitals with blood on a daily basis. Your whole blood donation will help three people in need. The general public is encouraged to donate and answer the Red Cross’s call to address the shortage in our local blood supply. Blood donors must be at least age 17, a minimum of 113 pounds and in good health. The Red Cross does have some restrictions based on medications and international travel. For donor eligibility questions, call the Red Cross Nurse at 510-594-5143. For event questions, call Mary Biggs at 510-299-5171.



This Blood Drive is sponsored by the Fremont Fire Department Community Emergency Response Team

JOIN THE FREMONT FIRE DEPARTMENT REHAB UNIT VOLUNTEERS,
FREMONTE FIRE DEPARTMENT EXPLORER POST #173
AND FREMONT FIREFIGHTERS LOCAL #1689

Fremont Firefighters Flippin' Flapjacks!

~3rd ANNUAL ~

PANCAKE BREAKFAST

Saturday, Oct.13, 2007 ** 8:00 am—12:00 Noon
Fremont Fire Station #9, 39609 Stevenson Place

\$5.00 Donation Requested * \$3.00 10 & under

Proceeds Benefit:

FREMONTE FIRE DEPT. REHAB UNIT VOLUNTEERS
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ALISA ANN RUCH BURN FOUNDATION



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Fire Administration
3300 Capitol Ave. Bldg.B
For further information:
(510) 693-3839

**South Bay Amateur Radio
Association**
Founded 1974
Mailing Address
Box 8377
Fremont, Ca. 94537-8377
Web Site — www.sbara.org

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DL4MHK

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Sam Severs, WS6S

Fremont Repeaters & Net Information

WA6PWW - 147.015 +600Khz, PL 103.5

WA6PWW - 223.900 -500Khz, PL 107.2

WA6PWW - 442.600 +5Mhz, PL 107.2

K6AIR - 146.940 -600Khz, PL 123.0

K6AIR - 441.525 +5Mhz, PL 123.0

ARES - Tuesday @ 7:30pm - 147.015 + PL 103.5

CW - Tuesday & Thursday on 75 meters — 3.880 Mhz
& on 10 Meters at 28.400 MHz, @ 8:30 p.m.

The [South Bay Amateur Radio Association](http://www.sbara.org) is a general interest amateur radio club serving the Fremont Tri-City area. The club has been in existence since 1974, and has functioned continuously ever since. We are an ARRL Special Service Club, an California not-for-profit tax exempt organization as specified in IRS Statutes. We sponsor training for

new hams, license examination sessions, and participate in various public service events. If you have a specialized amateur radio interest, chances are you can share it with one or more of our club members.

SBARA meets on the 2nd Friday of every month at the Veterans Hall in Niles (Fremont), California. The meeting begins at 7:30

PM. After conducting business, coffee and snacks are served while we socialize. Following the break, a program of interest will be presented. All persons interested in amateur radio are invited to attend. Families are welcome. We hope to see you there!

For those who would like to upgrade their licenses, here's an alternative testing opportunity. The Silicon Valley VE Group has scheduled regular test sessions every alternate Saturday morning at the HP facility in Cupertino. The ARRL site shows the following info for this Saturday, information:

*Sponsor: * SILICON VALLEY VE GROUP

*Time: * 8:00 AM (Walk-ins allowed)
*Contact: * MORRIS E JONES
(408)507-4698
*Email: *
AD6ZH@ARRL.NET
<mailto:AD6ZH@ARRL.NET>
*VEC: * ARRL/VEC
<http://wireless.fcc.gov/services/amateur/licensing/vecs.html>
*Location: * HEWLETT PACKARD
19333 VALLCO PKWY
BLDG #2
TESTS START BETWEEN
8-10:30AM

MAP N37 19.490
W122 00.568
CUPERTINO, CA 95014

In addition, these sessions are planned every two weeks through at least the end of May (March 17, April 7, April 21...).



Club Classifieds
List your items
for sale or trade
here.

Let other club members know about the gear you wish to sell, trade, need, etc. Send your info to BB.Arrl@WB9YVM before the 15th of each month to get it in the next month's newsletter. Limit your classified to 25 words or less. Ham Radio, Computer, or electronic related items only please. Listings are posted for 1 month, resubmit for additional months. Listings are first-come-first-serve, limited to space available. We reserve the right to edit content.

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(Near Disneyland)
933 N. Euclid St., 92801
(714) 533-7373
(800) 854-6046
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1525 W. Magnolia Blvd, 91506
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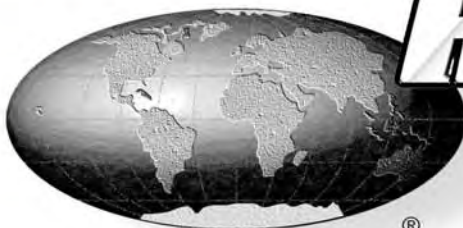
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- 50w VHF 35w UHF • Opt. Voice Synthesizer
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- 3 IF roofing filters

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- Advanced CW functions
- 101 alphanumeric memories

The Ultimate Radio!**ALINCO****DJ-196T** 2M/HT

- 5 Watt out
- 40 memories
- Alphanumeric display
- CTCSS + DCS built in
- "S" meter
- Auto Dialer

Low Pricing!**DR-135TP** 2M mobile

- 50 Watt out • Alpha numeric display
- 100 mems • Built-in TNC 1200 & 9600 Baud
- Front Panel GPS in • Rear DB-9 port
- CTCSS/DCS Encode/Decode built in

Low Pricing!



From the Circular File

The Capitol Records building in Los Angeles, California is built to resemble a stack of records.

A red airplane-warning light atop the structure flashes out the word "Hollywood" in Morse code every 20 seconds or so.

Announcements

SBARA's monthly meeting is September 14th.

Veterans Hall in Niles

September Raffle

Grand prize is a Champion Power Equipment 3500 running watts / 4450 watts surge Gas Generator!!



Potluck

See you at our Potluck, Details in this issue of the Ground-plane.

Vargus Repeater Group K6AIR

34/94 is Back on the Air !!!

Give it a Try....-600, 123PL

The Ground Plane — KU6S

<http://www.sbara.org>

South Bay Amateur Radio Association — SBARA

P.O. Box 8377

Fremont, Ca. 94537-8377